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The buffering role of social support on the associations among discrimination, mental health, and suicidality in a transgender sample

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ABSTRACT

Introduction: Per the minority stress framework, trans individuals often experience psychological distress given the unique stress engendered by gender identity–related discrimination. Prior research has identified social support as particularly important for psychological distress and has suggested that social support may moderate this relationship. The purpose of the current study was to explore the patterns of connections among discrimination, mental health, and suicidal ideation in trans individuals and whether social support moderates these relationships. *Methods*: Participants ($N = 78$) completed measures of these constructs as part of a national online survey. *Results*: A series of simultaneous multiple regressions found that harassment/rejection discrimination was a unique positive predictor of mental health symptoms and suicidal ideation, with depression positively predicting suicidal ideation. A mediational model indicated that the association between harassment/rejection discrimination and suicidal ideation was fully mediated by depression. Three moderated meditational models were run, and one yielded a significant interaction, such that discrimination predicted suicidal ideation most strongly when participants had low social support from a significant other in comparison to participants who had moderate or high support. Further, conditional direct effects identified that discrimination led to ideation only for individuals with low support from friends or a significant other but not for those with moderate or high support. *Conclusions*: Helping trans individuals cope with harassment and rejection, particularly by drawing on social support, may promote better mental health, which could help reduce suicidality in this population.

KEYWORDS
Discrimination; mental health; social support; suicide

Suicidality, which includes suicidal ideation or attempts, is a serious public health concern and has been examined extensively in the general population and among lesbian, gay, and bisexual (LGB) individuals. Specifically, suicidality among LGB populations has received considerable attention in the last 30 years, with a number of population-based studies reporting that sexual minorities are more likely to attempt suicide than their heterosexual counterparts (Cochran & Mays, 2000; Fergusson, Horwood, Ridder, & Beautrais, 2005; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Haas et al., 2011; King et al., 2008; Remafedi, French, Story, Resnick, & Blum, 1998). Trans people,[1] however, have largely been excluded or not separately examined in prior research on suicidality, with studies seeking to identify rates of suicide among this specific population undertaken only in the past 15 years. Data from nonrandom surveys of self-identified trans people have found that up to one third of respondents have made one or more lifetime suicide attempts (Clements-Nolle, Marx, & Katz, 2006; Kenagy, 2005; Xavier, Honnold, & Bradford, 2007). In a Swedish population-based matched cohort study, suicide-related mortality and attempts were higher among trans individuals when compared to matched cisgender counterparts (Dhejne et al., 2011). Rates of suicidal ideation were also found to be higher among trans participants in a U.S. matched cohort study (Reisner, White, Bradford, & Mimiaga, 2014). Further, in the 2009 U.S. National Transgender Discrimination Survey of approximately 6,500 trans participants, 41% of all respondents reported having attempted suicide in their lifetime, with trans men (46%) and trans women (42%) reporting slightly more attempts than the full sample of respondents

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including individuals who identified as transgender or gender non-conforming (Grant et al., 2011). This is particularly alarming provided that 12% to 19% of LGB adults and that less than 5% of all U.S. adults report ever having attempted suicide (U.S. Department of Health and Human Services, 2012). Such results highlight the need to identify risk factors among this vulnerable population.

Minority stress

The minority stress model (Meyer, 1995, 2003) has previously been utilized to identify how sexual minorities experience sexual minority-related stress, with a number of scholars proposing that such a model is relevant for trans people (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Testa et al., 2012). The model posits that individuals from stigmatized social categories are exposed to stressors as a result of their minority social position. Minority stressors are unique (additive to general stressors that are experienced by all people), chronic, and socially based, such that they are derived from relatively stable social structures and norms that are beyond the individual. This model suggests that the stressors resulting from stigma, prejudice, and discrimination will increase rates of psychological distress in minority persons and that social support and coping may buffer the negative effects of minority stressors (Meyer, 2003). A social environment supportive of diverse identities is likely to promote positive self-identity and may thus interact with minority stressors in buffering psychological distress.

Discrimination/violence

Given this framework, it is likely that trans people experience minority stress resulting from experiences with pervasive discrimination, violence, and victimization stemming from the social stigma attached to their gender nonconformity (Lombardi, Wichins, Priesing, & Malouf, 2002). According to Bockting and colleagues (2005), 66% of the transgender participants in their sample reported having been discriminated against because of their gender identity or presentation. In a national study of transgender participants (Lombardi et al., 2002), 56% reported experiencing verbal harassment, 37% employment discrimination, and 27% physical or attempted physical assault. Studies have consistently reported that trans individuals experience high rates of both physical and sexual violence with upwards of 40% reporting past physical violence (Kenagy & Bostwick, 2008; Lombardi et al., 2002; Xavier et al., 2007) or sexual assault (Clements-Nolle et al., 2006; Kenagy, 2005; Xavier et al., 2007), with many perceiving the attacks primarily attributable to their gender identity or expression.

Discrimination/violence and mental health

Research has also shown that experiences with discrimination and victimization are related to psychological distress among trans individuals. Many trans people experience significant psychological distress (Testa et al., 2012) including anxiety (Bockting et al., 2013; Budge, Adelson, & Howard, 2013) and depression (Bockting et al., 2013, 2005; Boza & Nicholson Perry, 2014; Budge et al., 2013; Clements-Nolle et al., 2006), with rates of anxiety and depression far exceeding the rates of the those for the general population (Budge et al., 2013; Dhejne, Vlerken, Heylens, & Arcelus, 2016), though such findings are limited by the absence of population-based matched cohort studies (Dhejne et al., 2016). Prior work has found that trans people who perceived or experienced rejection or discrimination because of their trans identity or gender expression reported greater levels of distress (Bockting et al., 2013). Experiences of discrimination (employment: 39%, verbal: 37%, physical: 20%) were more prevalent among depressed than nondepressed trans individuals (Sugano, Nemoto, & Operario, 2006) and were also positively associated with depression (Nemoto, Bödeker, & Iwamoto, 2011). Gender-related abuse has also been identified as a strong predictor of depression across the lifespan of trans women (Nuttbrock et al., 2010). Experiences of family rejection, being the victim of violence inflicted by a family member, workplace harassment, and being refused medical care because of anti-trans bias were associated with mental health problems (Haas, Rodgers, & Herman, 2014).

Discrimination/violence and suicidality

Given the detrimental effects of discrimination based on gender identity, research has identified strong associations with suicidality in this population. Gender-based discrimination and victimization were each independently associated with attempted suicide in one trans sample (Clements-Nolle et al., 2006), with suicidality also

positively related to gender-related abuse in another sample of trans women across different developmental age categories (Nuttbrock et al., 2010). Trans individuals who reported gender-based violence (GBV) were four times more likely to have attempted suicide than those without a history of GBV (Goldblum et al., 2012). Findings from the National Transgender Discrimination Survey identified that trans people reported high rates of suicide attempts if they had experienced housing (54%–69%) or workplace (50%–65%) discrimination (Haas et al., 2014). From the same sample, those who had been bullied, harassed, or assaulted at school because they were transgender or because of gender nonconformity also reported elevated rates of suicide attempts (51% versus 41% of the sample as a whole; Grant et al., 2011). Additionally, findings from the Canadian community-based Transgender PULSE Project found that transphobia (i.e., anti-transgender) discrimination was associated with greater risk of both suicide attempts and suicidal ideation (Bauer, Scheim, Pyne, Travers, & Hammond, 2015).

Mental health and suicide

Regardless of sexual orientation or gender identity, mental disorders have been implicated as one of the strongest predictors of suicidality (Haas et al., 2011). Trans people who reported a mental health condition have been found to be more likely to report a past suicide attempt (Haas et al., 2014), and those with previous suicide attempts were more likely to report past and current psychiatric treatment (Mathy, 2002). Disorders that have been linked to suicidality include depression, anxiety disorders, and substance abuse in sexual minority populations (Fergusson et al., 2005).

Social support

Consistent with the minority stress model (Meyer, 2003), coping resources such as social support have been theorized to buffer the effects of psychological distress due to stigma, discrimination, and violence. Social support has been identified as an important mechanism to learn about medical resources and use social networks to identify other important resources among trans individuals (Pinto, Melendez, & Spector, 2008), with social support related to lower depressive symptoms (Boza & Nicholson Perry, 2014; Nemoto et al., 2011), anxiety (Pflum, Testa, Balsam, Goldblum, & Bongar, 2015), nonsuicidal self-injury (Claes et al., 2015; Davey, Arcelus, Meyer, & Bouman, 2016), and suicidal ideation and attempts (Bauer et al., 2015).

Social support from family, in particular, is an important predictor of well-being in trans samples and has been associated with better quality of life (Baser, Oz, & Karakaya, 2016) and reduced psychological distress (Bariola et al., 2015; Bockting et al., 2013). Receiving support from family has also been related to reduced psychological distress after experiencing gender identity-related stigma, with those receiving high compared to moderate or low levels of support not evidencing psychological distress (Bockting et al., 2013). This is especially important as trans individuals, compared to their nontrans siblings, perceive and report less social support from family (Factor & Rothblum, 2007; Davey et al., 2014), which is associated with experiencing more discrimination (Bradford, Reisner, Honnold, & Xavier, 2013). In the Canadian Trans PULSE Project study of trans individuals over age 16, overall social support was associated with reduced suicide risk, and support from family members regarding gender identity was associated with greatly reduced likelihood of suicidal ideation (Bauer et al., 2015). These findings are important, as they demonstrate that family support may play a unique role in reducing distress and buffering detrimental psychological influences of gender-related discrimination.

In summary, existing research has demonstrated depression, anxiety, and discrimination to be interconnected predictors of suicidality and that social support from family can play an important role in reducing suicidality. However, these existing studies have not examined the relationships among discrimination, mental health, social support, and suicidality from a minority stress framework in one comprehensive model. Therefore, the purpose of this study is to examine the pattern of connections among discrimination, mental health, social support, and suicidal ideation in trans individuals. It is hypothesized that (1) greater anti-trans discrimination will lead to poor mental health and that this will lead to greater suicidal ideation (a full mediation). Given the literature around the moderating effects of social support, it is also hypothesized that (2) social support will moderate (i.e., reduce) the negative effects of anti-trans discrimination on these variables and (2a) that social support from family in particular will be especially important for reducing the effects on mental health and suicidal ideation (Bariola et al., 2015; Factor & Rothblum, 2007).

Method

Measures

Participants completed a set of questionnaires assessing experiences with discrimination and harassment, mental health, suicidal ideation, and social support. Demographic information was collected through a researcher-created questionnaire.

Heterosexist Harassment, Rejection, and Discrimination Scale

Experiences of anti-trans discrimination were assessed with the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS) (Szymanski, 2006), a 14-item self-report questionnaire consisting of three factors: harassment/rejection, workplace/school discrimination, and other discrimination. For the present study, the term "LESBIAN" was substituted with the phrase an "LGBTQ individual" to comprehensively evaluate numerous forms of discrimination experienced across a diverse set of sexual and gender minority statuses. Responses were measured on a six-point rating scale (1 = *the event has never happened to you* to 6 = *the event happened almost all of the time)*, and participants were instructed to indicate the number that best described events in the past year. Szymanski (2006) reported high internal consistency for the total scale (Cronbach's $\alpha = .90$) with adequate-to-good consistency for the subscales (α range = .78–.89). Validity was supported by an exploratory factor analysis, by significant positive correlations with measures of depression, anxiety, and overall distress (Szymanski, 2006) and by good internal consistency in a lesbian, gay, and bisexual sample ($\alpha = .90$; Bandermann & Szymanski, 2014). The measure exhibited good internal consistency in the current sample ($\alpha = .91$).

Hopkins Symptoms Checklist 25

Depression and anxiety symptoms were assessed using the Hopkins Symptoms Checklist 25 (HSCL-25) (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). The HSCL-25 is a 25-item self-report questionnaire composed of 15 items measuring depression and 10 items measuring anxiety. Individuals were asked to indicate how often each symptom bothered or distressed them over the past week. For the purpose of this study, one item assessing suicidal ideation was omitted from the total and depression subscale scores given its overlap with the outcome. Responses ranged from 1 (*not at all*) to 4 (*extremely*), with higher scores indicating greater symptoms. A cutoff score of 1.75 is used to identify clinically significant symptoms for each subscale (Sandanger et al., 1999). Evidence of validity was demonstrated by correlations of the HSCL-25 with a medical doctor's global assessment of psychological distress and other measures of emotional symptoms (Hesbacher, Rickels, Morris, Newman, & Rosenfeld, 1980), and it has been used in a sample of same-sex couples (Leung, Cheung, & Lu, 2013). The internal validity of the measure in the current sample was good ($\alpha = .93$).

Suicide Behaviors Questionnaire

The Suicide Behaviors Questionnaire (SBQ) (Linehan, 1996) is a 34-item measure that assesses suicidal ideation and behaviors; however, for the purpose of this study only the five-item Suicidal Ideation subscale of the measure was used. This subscale measures suicidal ideation in the past several days, months, and year and over one's lifetime with higher scores indicating higher levels of suicidal ideation. The scoring algorithm weights more recent suicidal ideation more highly, giving a longer-term index of ideation but being a better reflection of current ideation. Respondents are asked to respond to items on a 5-point scale with the frequency that they have thought about killing themselves (0 = *not at all* to 4 = *very often*). Given that the subscale was unaltered, the validity of the whole measure is appropriate. The SBQ has demonstrated high internal reliability (α range = .73–.92) among men and women and has been used in many settings and in both clinical and nonclinical populations. The scale has demonstrated good convergent validity indicated by positive correlations with other measures of suicidal ideation, depression, and hopelessness (Linehan, 1996; Osman et al., 2001). The measure exhibited good internal consistency in the current sample ($\alpha = .91$).

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988) is a 24-item self-report measure used to assess subjective social support across three dimensions: social support from family, social support from friends, and social support from a significant other. Each dimension is rated on a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*), and higher scores

indicate greater levels of perceived social support. The MSPSS has been shown to have strong internal consistency ($\alpha = .88$) for the overall scale, high subscale alphas (.85–.91), and good construct validity (Zimet et al., 1988). The internal validity of the measure in the current sample was good ($\alpha = .89$).

Procedure

Participants were recruited through various Internet forums and groups. Information regarding recruitment for the study was emailed to national and regional lesbian, gay, bisexual, transgender, queer (LGBTQ) organizations (e.g., The Center Orlando) and online social and community groups (e.g., LGBT People of Color Yahoo Group), with a particular focus on organizations catering to individuals of color in order to increase sample racial/ethnic diversity. Comparable details were posted to online social and community groups' message boards, and information was submitted to group moderators for groups that did not permit nonmember posting. If approved, study details were posted to message boards or sent out to the listserv.

Interested individuals were told in the recruitment flyer to email the research coordinator, who screened subjects to determine whether they met study criteria. Eligible individuals were provided with a link and access code to the online survey via email. Data for participants were completely deleted from the survey software if there was an indication of false responding or responses from a computer (i.e., less than 20 minutes or greater than 24 hours to complete), impossible response patterns (e.g., selecting the first response for every single item), or if participants did not correctly respond to 4 of 6 (66.6%) randomly placed validation questions (e.g., "Please select strongly agree for the item below"). Because this process was automatic, as mandated by the host institution's information security officer to prevent the fraudulent use of state funds, the precise number of deleted responses is unknown. Inclusion criteria for the current study required that the participant be at least 18 years old and identify as transgender/nonbinary. Individuals were not allowed to participate if they did not respond, provided illogical responses, did not meet inclusion criteria, or appeared to be a computer program. Upon completion, participants were compensated with a $15 electronic Amazon.com gift card. Participant recruitment began in February 2013 and lasted until April 2014. All individuals consented to participation in the study under the institutional review board–approved guidelines.

Statistical analyses

In order to identify the pattern of connections among discriminatory experiences, mental health, suicidal ideation, and social support, a series of exploratory multiple regressions was performed. The first regression included the three subscales of the HHRDS (Harassment/Rejection, Work/School, and Other) as predictor variables and suicidal ideation as the criterion variable. In the second regression, the anxiety and depression subscales of the HSCL-25 served as the predictors of suicidal ideation, the criterion variable. The final regression included the three subscales of the HHRDS as predictors of the total mental health score of the HSCL-25.

Then, a simple mediation using the Hayes (2013) PROCESS macro (model 4) examined the pattern of relationships among the primary significant variables that had emerged in the prior series of regressions in which the strongest unique predictors from the regressions were chosen for the mediational model using 5,000 bootstrapping samples. Next, tests of moderated mediation (model 59; Hayes, 2013) were performed to examine the conditional effect of the mediation model as a function of the three types of social support. Bootstrapping with greater than 1,000 samples is recommended when sample sizes are small and when conducting a moderated mediation to alleviate issues of Type I error and lack of power, thus 5,000 bootstrapped samples is sufficient for the current analyses (Preacher, Rucker, & Hayes, 2007). Prior to conducting the mediation and moderated mediation analyses, all variables in the respective models were standardized.

Results

The sample included 26 trans men (33.3%), 29 trans women (37.2%), and 23 (29.5%) persons who identified as a gender other than these two. Additional demographics of the sample are found in Table 1.

Exploratory multiple regressions

In the first regression, the three HHRDS subscales explained 25.7% of the variance in suicidal ideation, F

Table 1. Demographics of study sample ($N = 78$).

Characteristic	%
Age, *M* (*SD*)	29.6 (10.46)
Sexual orientation	
Gay/lesbian	12.8
Bisexual	15.4
Queer	41.0
Heterosexual	15.4
Other	15.4
Race	
White/European American (non-Latino)	61.5
Asian/Asian American/Pacific Islander	10.3
Black/African American (non-Latino)	9.0
Latino/Hispanic	2.6
American Indian/Native American	1.3
Multiracial/multiethnic	12.8
Other	2.6
Relationship status	
Not currently dating/in a relationship	38.5
Dating/in a relationship with 1+ person	11.5
In a new relationship (< 12 months) with 1 person	11.5
In a long term relationship (> 12 months) with 1 person	38.5
Employment	
Full-time	34.6
Part-time	20.5
College enrollment	14.1
College enrollment and employed	19.2
Unemployed	11.5
Education	
Completed high school/received GED	6.4
Completed some college (no degree)	35.9
2-year technical degree	7.7
4-year degree	34.6
Master's degree	14.1
Doctoral degree	1.3
Met clinical threshold for …	
Depression	19.0
Anxiety	12.0
Lifetime suicide attempts, % (*n*)	
Never	61.5 (48)
Once	11.5 (9)
Two or more times	26.9 (21)

Note. M = mean, SD = standard deviation.

(3, 74) = 8.53, $p < .001$. Harassment/rejection ($\beta = .48$, $p < .001$) and work/school ($\beta = .28$, $p = .041$) subscales were independently and positively associated with past suicidal ideation while the "other" subscale was negatively associated ($\beta = -.32$, $p = .025$).

In the second regression, the two subscales of the HSCL-25 explained 41.2% of the variance in suicidal ideation, $F(2, 75) = 26.28$, $p < .001$. Depression ($\beta = .79$, $p < .001$) was a significant and positive unique predictor, while anxiety ($\beta = -.23$, $p = .093$) was not.

In the final regression, the three subscales of the HHRDS accounted for 19.3% of the variance in the overall HSCL-25 mental health score, $F(3, 74) = 5.89$, $p = .001$. Harassment/rejection was independently and positively related to mental health problems ($\beta = .47$, $p = .001$). Neither work/school ($\beta = .03$, $p = .808$) nor other ($\beta = -.09$, $p = .534$) discrimination was uniquely related to affective symptoms.

Mediational model

Given that the harassment/rejection subscale was a significant unique predictor for both affective symptomatology and suicidal ideation, it was included in all future analyses. To address the first aim of the study, a simple mediation model was run with harassment/rejection specified to have a direct effect on suicidal ideation, as well as an indirect effect through depression (Figure 1), using 5,000 bootstrap samples. The direct paths from harassment/rejection to depression ($\beta = .46$, $p < .001$; 95% CI [.26, .67]) and from depression to past suicidal ideation ($\beta = .54$, $p < .001$; 95% CI [.34, .74]) were statistically significant, while the direct effect of harassment/rejection onto past suicidal ideation was not significant ($\beta = .19$, $p = .062$; 95% CI [–.01, .39]). Further, the indirect effect of harassment/rejection on past suicidal ideation through depression was statistically significant ($\beta = .25$, 95% CI [.12, .44]) indicating a full mediation.

Moderation by social support

To address the study's second aim and identify whether this meditational effect differed as a function of respondents' level of social support (a moderated

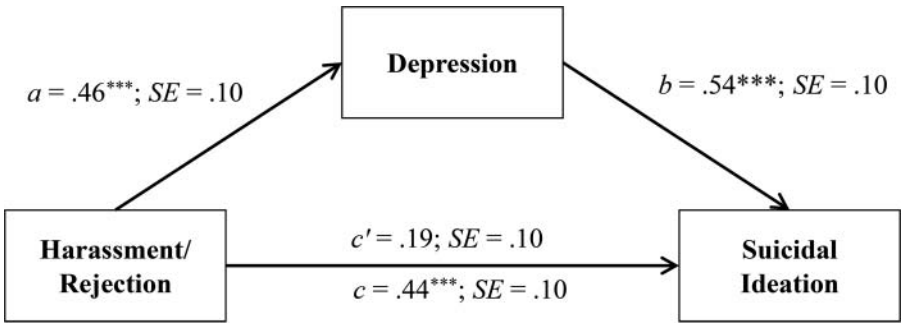

Figure 1. Initial simple mediation model with standardized path loadings and standard errors using 5,000 bootstrap samples. *Note.* $^{***}p < .001$.

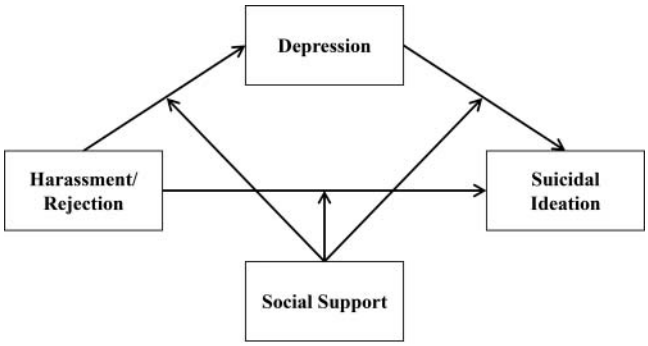

Figure 2. The conceptual moderated mediation models.

mediation), three separate conditional process models were run for respondents' social support from family, friends, and significant other (Figure 2).

Social support from family members, friends, and a significant other were tested as moderators of the initial mediational model. Overall model tests of harassment/rejection and social support with depression as the criterion variable were significant for social support from family members, [$F(3, 74) = 8.12$, $p < .001$, $R^2 = .25$], from friends [$F(3, 74) = 8.02$, $p < .001$, $R^2 = .25$], and from a significant other [$F(3, 74) = 12.25$, $p < .001$, $R^2 = .33$]. There were significant positive direct effects of harassment/rejection to depression when each type of social support was included in the model (Table 2). Social support from a significant other was negatively associated with depression, while all other forms of support were not significant. All harassment/rejection × social support interactions with depression as the criterion variable were not significant (Table 2).

Overall model tests of harassment/rejection, depression, and social support with suicidal ideation as the criterion variable were significant for social support

Table 2. Model summary for the association between harassment/rejection discrimination and suicidal ideation through depression by social support ($N = 78$).

	Estimate (*SE*)	95% bias-corrected bootstrap confidence interval
	Social support–Family	
Model 1: DV = Depression		
HHRDS-HR	0.51 (0.12)***	0.28 to 0.75
SS-Family	-0.05 (0.12)	-0.29 to 0.18
HHRDS-HR × SS-Family	0.21 (0.12)	0.03 to 0.45
R^2	0.25***	
Model 2: DV = Suicide attempts		
Depression	0.56 (0.11)***	0.35 to 0.77
HHRDS-HR	0.12 (0.12)	-0.11 to 0.36
SS-Family	-0.03 (0.10)	-0.24 to 0.18
Depression × SS-Family	0.00 (0.11)	-0.22 to 0.21
HHRDS-HR × SS-Family	-0.13 (0.13)	-0.38 to 0.13
R^2	0.43***	
	Social support–Friends	
Model 1: DV = Depression		
HHRDS-HR	0.46 (0.10)***	0.26 to 0.67
SS-Friends	-0.16 (0.11)	-0.38 to 0.05
HHRDS-HR × SS-Friends	0.11 (0.09)	-0.08 to 0.29
R^2	0.25***	
Model 2: DV = Suicide attempts		
Depression	0.55 (0.10)***	0.34 to 0.75
HHRDS-HR	0.17 (0.10)	-0.03 to 0.37
SS-Friends	-0.04 (.10)	-0.24 to 0.15
Depression × SS-Friends	0.01 (.09)	-0.17 to 0.18
HHRDS-HR × SS-Friends	-0.12 (.09)	-0.29 to 0.05
R^2	0.44***	
	Social support–Significant other	
Model 1: DV = Depression		
HHRDS-HR	0.49 (0.10)***	0.30 to 0.68
SS-SO	-0.34 (0.10)***	-0.53 to -0.15
HHRDS-HR × SS-SO	0.08 (0.09)	-0.10 to 0.25
R^2	0.33***	
Model 2: DV = Suicide attempts		
Depression	0.50 (0.11)***	0.28 to 0.73
HHRDS-HR	0.20 (0.10)$^{+}$	-0.01 to 0.40
SS-SO	-0.08 (0.09)	-0.27 to 0.12
Depression × SS-SO	0.02 (0.09)	-0.16 to 0.20
HHRDS-HR × SS-SO	-0.18 (0.09)*	-0.36 to -0.01
R^2	0.46***	

Note. 5,000 bootstrap samples. DV = dependent variable, HHRDS-HR = harassment/rejection discrimination, SS = social support, SO = significant other.
$^{+}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

from family members, [$F(5, 72) = 10.83$, $p < .001$, $R^2 = .43$], from friends [$F(5, 72) = 11.26$, $p < .001$, $R^2 = .44$], and from a significant other [$F(5, 72) = 12.30$, $p < .001$, $R^2 = .46$]. There were also significant direct effects predicting suicidal ideation. Depression was positively associated with suicidal ideation when each type of social support was included in the model (Table 2). Harassment/rejection was marginally significantly associated with suicidal ideation when social support from a significant other was included and was not significant when other forms of support were included in the model (Table 2). Social support from any source was not significantly associated with suicidal ideation. An examination of interactive effects indicates that higher social support from a significant other significantly reduced the association between harassment/rejection and suicidal ideation (Figure 3). All other interactive effects between social support and harassment/rejection and between social support and depression were not significant (Table 2).

Conditional direct and indirect effects of the models were also examined. There were conditional direct effects of harassment/rejection onto suicidal ideation by social support from friends and by social support from a significant other. Specifically, experiences of harassment and rejection lead to suicidal ideation when social support from either friends or a significant other were low but not when levels of support were moderate or high (Table 3). No conditional direct effects of harassment/rejection on suicidal ideation by social support from family were observed. Additionally, no conditional indirect effects of harassment/rejection onto suicidal ideation through depression were observed for any form of social support.

Discussion

The primary goal of this study was to test whether mental health mediated the relationship between experiences of anti-trans discrimination and suicide attempts and whether this mediation was moderated by social support. The rates of anxiety and depression in the current sample of 12% and 19%, respectively, are substantially lower than those reported elsewhere in the literature (Boza & Nicholson Perry, 2014; Budge, Adelson, & Howard, 2013).

The finding that anti-trans discrimination was positively related to suicidal ideation and mental health in a trans sample is also in line with prior research. Transpho-

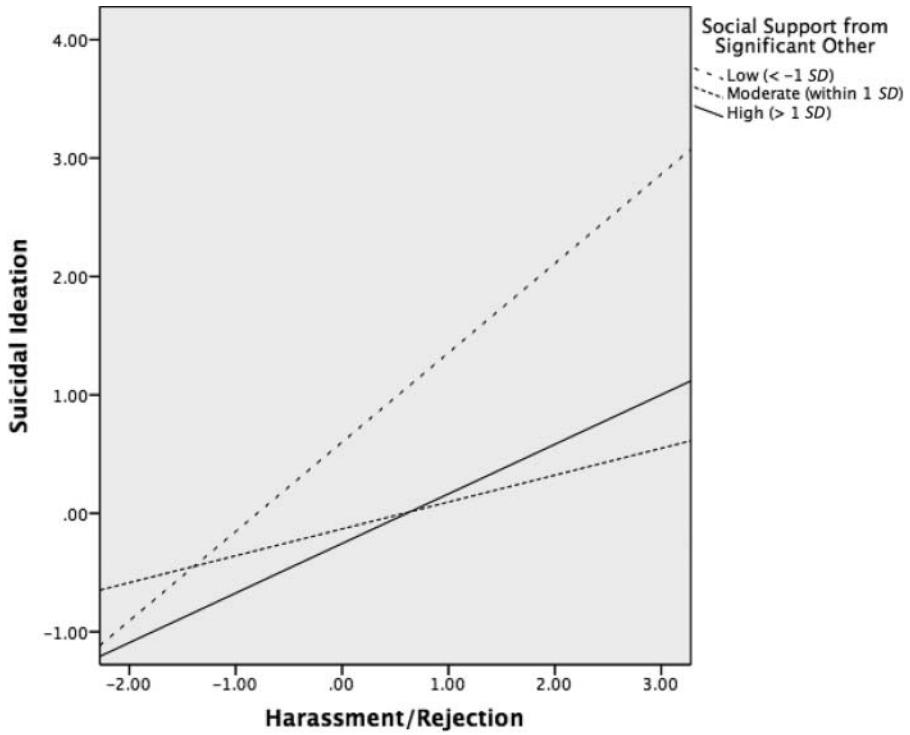

Figure 3. Interaction of harassment/rejection and social support from a significant other predicting suicidal ideation. *Note.* All data points are *z* scores.

Table 3. Conditional direct effects of harassment/rejection discrimination on suicidal ideation at levels of social support ($N = 78$).

Social support	Estimate (SE)	95% bias-corrected bootstrap confidence interval
Family		
Low (-1.00; 6.47[a])	0.25 (0.14)$^{+}$	-0.03 to 0.53
Moderate (0.00; 11.18[a])	0.12 (0.12)	-0.11 to 0.36
High (1.00; 15.89[a])	0.00 (0.20)	-0.41 to 0.40
Friends		
Low (-1.00; 11.58[a])	0.28 (0.12)*	0.04 to 0.55
Moderate (0.00; 15.42[a])	0.17 (0.10)	-0.04 to 0.37
High (1.00; 19.27[a])	0.05 (0.14)	-0.24 to 0.34
Significant other		
Low (-1.00; 9.15[a])	0.28 (0.13)***	0.13 to 0.63
Moderate (0.00; 14.50[a])	0.20 (0.10)$^{+}$	-0.01 to 0.40
High (1.00; 19.85[a])	0.01 (0.14)	-0.28 to 0.30

[a]Before mean centering and standardization, 5,000 bootstrap samples.
$^{+}p < .10$, $^{*}p < .05$, $^{***}p < .001$.

bic discrimination (i.e., discrimination based on transgender identity) has been associated with increased likelihood of suicidal ideation (Bauer et al., 2015; Rood, Puckett, Pantalone, & Bradford, 2015), psychological distress (Bockting et al., 2013), and depression (Nemoto et al., 2011). Gender-related abuse has been associated with suicidality and depression across different developmental age groups (Nuttbrock et al., 2010). Interestingly, only experiences of harassment and rejection were uniquely related to both suicidal ideation and mental health in this sample. Prior research has identified that gender identity-based victimization during high school is positively associated with a history of suicide attempts and with a greater number of suicide attempts across different developmental age groups (Goldblum et al., 2012), which is in turn predicted by suicidal ideation (Grossman & D'Augelli, 2007). Prior research also demonstrates relatively high rates of school (Grant et al., 2011) and work (Haas et al., 2014) discrimination experienced by trans people. However, experiencing harassment and rejection is not localized to a given life domain (i.e., work and school) and covers a wide range of behaviors, in contrast to discrimination, which deprives an individual from a benefit or opportunity. Thus, trans people may be likely to experience harassment with greater frequency and as a result it may likely be a stronger predictor of suicidal ideation and mental health.

Affective symptomatology was also significantly associated with suicidal ideation in the sample, with depression identified as a unique predictor. These results are generally consistent with Nemoto and colleagues' (2011) finding that depressive symptoms were associated with lifetime suicidal ideation. Additional literature has generally been indicative of greater affective symptomology as a risk factor for suicidal behavior (Kessler, Borges, & Walters, 1999), with depression serving as a unique and strong predictor of suicidality in sexual minority adults (Irwin, Coleman, Fisher, & Marasco, 2014).

The results of the mediation analyses indicated that depression fully mediated the relationship between experiences of harassment and rejection and suicidal ideation, supporting our first hypothesis. Keeping in line with the minority stress model (Meyer, 2003), individuals who experience discrimination and harassment as it relates to their minority identity are likely to experience poor mental health outcomes such as depression, which is an important predictor of suicidal ideation. Indeed, there is substantial literature evidencing a strong association between depression and suicide in the general literature (Mościcki, 1997) and among sexual minorities (Haas et al., 2011). An adaption of the minority stress model for trans individuals suggests that interpersonal dynamics also play a significant role in the association between minority stress and suicide risk in this population (Hendricks & Testa, 2012). According to Hendricks and Testa's adaptation (2012), suicide risk is centered on the union of thwarted belongingness, conceptualized as social isolation (Joiner, 2010, as cited in Hendricks & Testa, 2012). The situations that contribute to social isolation may include a lack of social support, especially from one's family, and societal rejection, which could manifest as experiences of anti-trans discrimination or harassment. This may be especially important as research has suggested that 57% of trans individuals experience family rejection, 61% report harassment or victimization at some point during their education, and 91% experience harassment or mistreatment in their employment (Grant et al., 2010). Research also indicates that trans individuals are exposed to high levels of harassment, victimization, and discrimination as children and that this extends into adulthood (Goldblum et al., 2012; Grossman & D'Augelli, 2006; Nemoto et al., 2011; Testa et al., 2012). This suggests that many trans individuals experience a pervasive lack of belonging in multiple major life domains (i.e., school, work, home) and early in development, which may compound the deleterious impact of these stressors and directly affect depression and suicide risk. This may be reflected in

research that has found interpersonal problems to be a significant predictor of depressive psychopathology in transgender adults and that self-esteem significantly mediates the association between interpersonal problems and low quality of life (Bouman, Davey, Meyer, Witcomb, & Arcelus, 2016). Among women who experienced physical violence, depression significantly mediated the relationship of intimate partner violence and suicidal ideation (Weaver et al., 2007). These findings suggest the important role of self-worth in predicting well-being and, in particular, suicidality. Few studies have overtly examined trans-based discrimination, depression, and suicidal ideation in a comprehensive path model exclusively in a trans sample, underscoring the significance of these results and the need for further work in this area.

An examination of suicidal ideation analyses found that social support did not significantly moderate the association between harassment/rejection and depression, with social support from a significant other independently associated with fewer depressive symptoms. These generally null findings are particularly important given that the minority stress model posits social support to moderate the association of distal stressors such as harassment onto mental health outcomes (Meyer, 2003). To date, only two prior studies have specifically examined this association in a trans sample, yielding contrasting results (Bockting et al., 2013; Nemoto et al., 2011). While there is inconsistency in identifying social support as a significant moderator of the minority stress-mental health association, both studies did uncover social support to be directly associated with psychological distress or depression, the results of which are replicated in other studies of trans individuals (Boza & Nicholson Perry, 2014; Pflum et al., 2015), even when accounting for other coping resources (Budge et al., 2013). However, many of these studies have generally collapsed the different sources of support into one overall score or examined social support more generally and have not been able to parse out the unique effects of these three different dimensions. In Bockting et al. (2013), items assessing perceived supportiveness of partners and significant others were included in the measurement of family support (Hoffman, 2014), making the comparison of results challenging. Nevertheless, it is possible that this population may not utilize support from their families but instead have greater access to support from significant others given that family as the primary support network is often unavailable to trans people (Carroll, Gilroy, & Ryan, 2002). This is important provided that trans people may be more likely to experience harassment and rejection from family and friends than by a significant other who may likely be more unconditionally supportive of their gender identity. Additionally, literature on perceived social support and depression in transgender populations has demonstrated an association between greater perceived social support and reduced psychological distress (Bockting et al., 2013; Budge et al., 2013), generally supporting the current results.

Results from suicidal ideation analyses indicate that depression was uniquely associated with ideation and that social support from a significant other moderated the association of experiences of harassment and rejection with suicidal ideation. The unique effect of depression on ideation is unsurprising given past literature on the topic (see Hoffman, 2014, for a review), however, the results of the significant interaction indicate that social support from a significant other, and not from family or friends, buffers the negative impact of harassment and rejection on suicidal ideation. The current findings are interesting given that most studies have largely focused on or identified the significant impact of perceived general, family, or peer support on quality of life (Baser et al., 2016), mental health (Bariola et al., 2015; Bockting et al., 2013; Nemoto et al., 2011; Pflum et al., 2015), and suicide (Moody & Smith, 2013). While the current findings are generally in line with prior work identifying social support in helping to mitigate the detrimental impact of minority stress on suicidality in trans people (Moody & Smith, 2013), in addition to the broader literature on social support and suicide (Kleiman & Liu, 2013), the presence of significant effects by social support from a significant other suggests future work would benefit from this inclusion.

The lack of significant conditional indirect effects across all sources of social support did not support the study's hypothesis that social support moderated the mediational pathway outlined above. One potential reason for this may be that social support does not moderate the overall relationship but rather only distinct pathways effectively highlighting areas that are more effected by social support. This is supported by the presence of conditional direct effects of harassment and rejection onto suicidal ideation by support from a friend or significant other—such harassment

and rejection was associated with increased suicidal ideation at low levels of support but not at moderate or high levels of support. The lack of significant findings regarding social support from family is also contrary to our hypothesis stating that family would be the most powerful buffer against suicidal ideation. These results are interesting in light of prior research, which has shown support from family to be a predictor of reduced suicidal ideation (Bauer et al., 2015). However, the Trans PULSE Project examined this relationship by assessing social support from family specifically related to supporting the gender of the transgender family member and also combined self-report items of experiencing support or of expecting support from family. Our study used a non–transgender-specific operationalization of social support that did not include gender acceptance and, further, did not include expectations of support. Social support from family, when limited to actual experience, may not be a predictor of suicidal ideation. Alternatively, social support from family when specific to an "out," or disclosed, transgender identity may be a predictor, while nonspecific family support is not. Another possibility could be related to limitations with our measure and study design, as we do not account for transgender individuals who are not out to their family members, which could impact self-report on these items.

The significant conditional direct effects of social support from peers and significant others are interesting. The absence of a significant interaction in the presence of significant conditional direct effects indicates that social support from friends or significant others only impacts the relationship between harassment/rejection and suicidal ideation at a low level for each. This is congruent with existing research, such as the Trans PULSE Project, which found that total social support from friends ("peers") was significantly associated with reduced suicidal ideation and in line with our findings (Bauer et al., 2015). The direct effect at low but not at moderate or high levels of social support is not surprising and is very much in line with prior work identifying low peer support as a risk factor for suicidality (Liu & Mustanski, 2012). Further, support from a significant other is important as intimate partner violence and sexual abuse are not uncommon (Barrett & Sheridan, in press; Heintz & Melendez, 2006). The existence of strong partner support indicates a likely absence of IPV, in addition to the typical buffering effects that come from supportive partners. Further qualitative research should seek to more closely investigate how social support from a significant partner functions within this demographic and how it may act in a buffering capacity. Together, these findings indicate that the absence of strong support networks from peers or significant others may be a direct link to suicidal ideation in the face of minority stressors.

Research and clinical implications

The results of this study have a number of implications for future research on clinical interventions. These results demonstrate the importance of clinical research investigating whether addressing anti-trans stigma may be a means of reducing suicidality in trans populations. If born out in intervention research, helping trans individuals cope with harassment and rejection may promote better mental health, which could help reduce suicidal behavior in a population that is at greater risk for suicide than either the general or LGB populations. This may be through increased education about the effects of anti-trans bias and through empowering allies to prevent or stop anti-trans harassment and discrimination from occurring. From a clinical research perspective, intervention research may aim to assist trans people with poor mental health by treating their depression as a means to prevent potential suicidal behavior. Further, helping trans individuals navigate current or potential relationships in order to strengthen support from their partners and assisting them in becoming more connected with supportive peers and communities could provide trans individuals with their own support systems outside the clinical environment.

Limitations and future research

This study does have some limitations. Though this was a nationwide sample, participants were recruited primarily through online community forums. Thus, participants who chose to participate were most likely "out" about their gender identity and probably more connected to support communities than trans people in the general population. Outness was not measured, thus it is unknown what percentage of the sample this limitation applies to. The sample size of the current study was also small, which may have occluded significant findings. Future research should

aim to recruit larger samples as well as one that is more representative of the spectrum of outness among trans people. Additionally, participants in this sample had a high level of education. Given that a higher level of education is associated with less psychological distress, it will be important to specifically recruit participants with lower education levels in future studies. The current study was also cross-sectional in nature and, subsequently, prevents causal inference. It will also be important for future research to examine trans people of color more specifically to determine whether trans people of color are at increased risk for suicidality (Xavier, Bobbin, Singer, & Budd, 2005) and thus more susceptible to the effects of anti-trans harassment and to capture information regarding transition development and determine whether this is likely to impact mental health and subsequent suicidality. Further, the study was not comprehensive in its use of measures specific to trans populations and constructs such as outness, transition status, and more-nuanced investigations of social support (i.e., gender-specific supports) were not assessed. Future studies should be inclusive of these measures and should measure transition status in multiple ways (i.e., not through a purely medical lens).

Conclusion

The current study provides a path model that effectively links harassment/rejection, depression, and suicidal ideation in a sample of ethnically diverse trans people. Our study extends prior research by including a representative depiction of trans people, in both sexual identification and race/ethnicity, and by testing a more comprehensive framework that suggests social support as a moderator of individual pathways in this model.

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Note

1. In this article, *trans* refers to the range of persons who identify or present as transgender or gender nonconforming.

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